



GROUP  
**CHA**

MODEL  
**2011~2014MY  
Optima (TF/QF)**

NUMBER  
**060**

DATE  
**January 2016**

## TECHNICAL SERVICE BULLETIN

**SUBJECT:** ECM UPGRADE – STEERING LOGIC IMPROVEMENT

This bulletin provides information related to the MDPS ECU software upgrade for some 2011 ~ 2014MY Optima (TF/QF) vehicles, produced from Job #1 through July 27, 2014, which may experience a notchy feel in the steering wheel. To correct this condition, the vehicle should be evaluated using the MDPS Effort Measurement SW, detailed in the attached repair procedure, to determine whether an improved steering logic should be installed in the MDPS ECU, or if an MDPS column replacement is required. To determine whether the updated MDPS ECU reflash applies to a vehicle you are working on, or whether it has already been performed, verify ROM ID using the tables in this TSB.



Global Diagnostic System (GDS)



Kia Diagnostic System (KDS)

**File Under: <Chassis>**

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**Circulate To:**     **General Manager**     **Service Manager**     **Parts Manager**  
 **Service Advisor(s)**     **Technician(s)**     **Body Shop Manager**     **Fleet Repair**

**Service Procedure:**

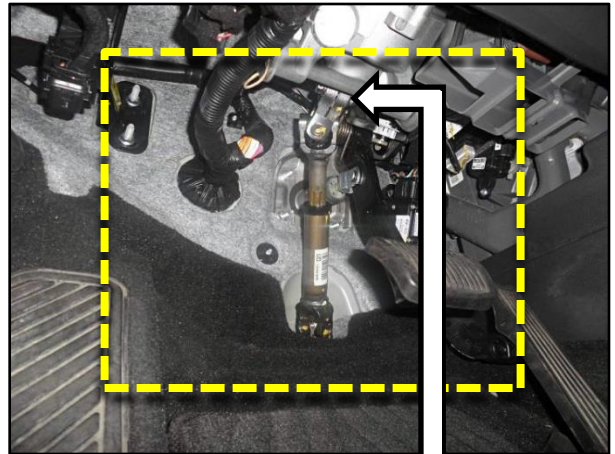
1. Open the driver's door and remove the top bolt from the universal joint. **NOTE:** place a mark across the universal joint to make reinstallation easier.

**Tightening torque:**

21.7 ~ 25.7lb-ft (29.4 ~ 34.3Nm)

**CAUTION**

After disconnecting the universal joint, do **NOT** turn the steering wheel more than 270° to prevent damage to the clock spring.



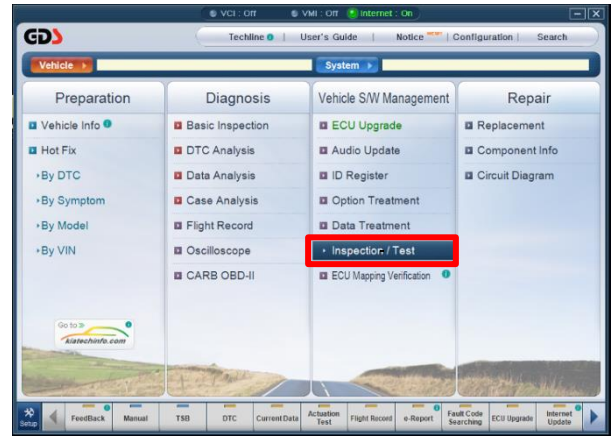
2. Prior to starting the steering effort measurement test (Pg. 3), position the steering wheel slightly to the right, as shown, with the Steering Angle Sensor (SAS) in the positive range. **NOTE:** attempting to start the steering effort test with the SAS in the negative range will trigger an error message and prevent the test from running.



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### Steering Effort Measurement Procedure:

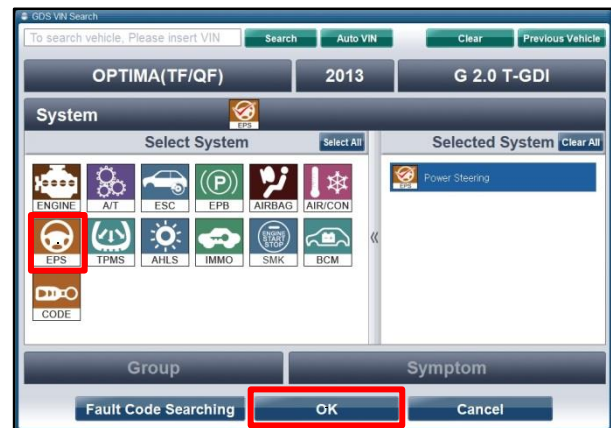
1. Connect the USB cable between the VCI and the GDS.
2. Select **Inspection/Test**.



3. Select the vehicle information and click **OK**.

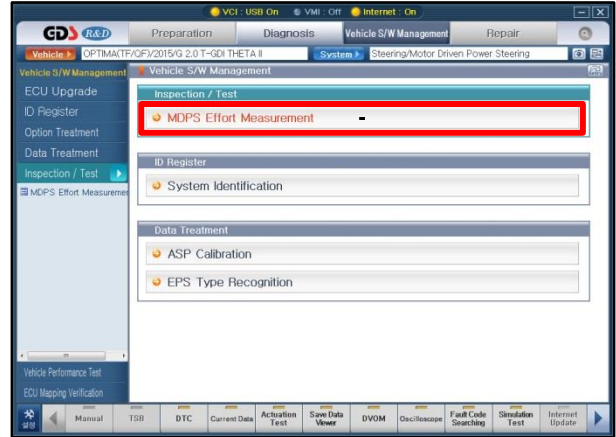


4. Select **EPS** and click **OK**.

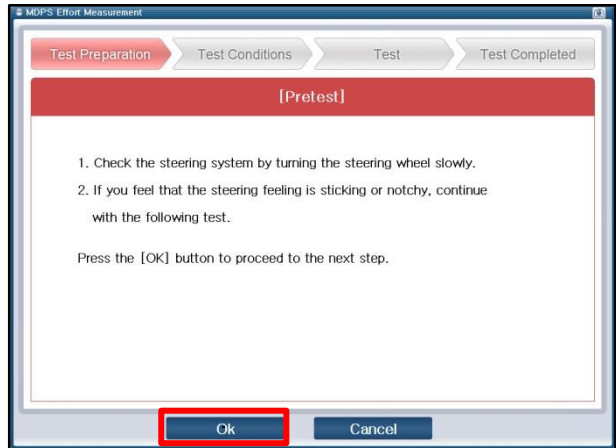


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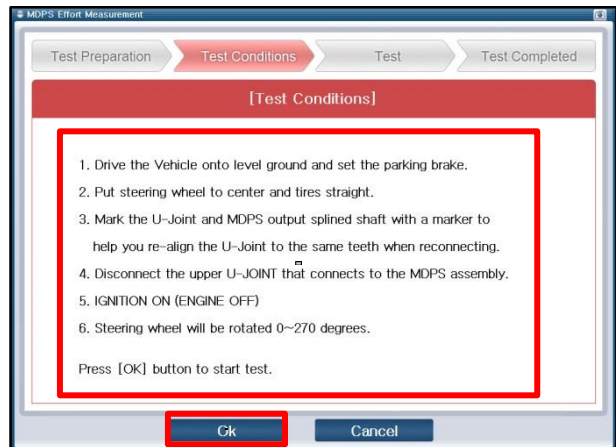
5. Select **MDPS Effort Measurement**.



6. Verify the customer's complaint matches the information on the screen and click **OK**.



7. Confirm all test conditions have been performed and click **OK**.

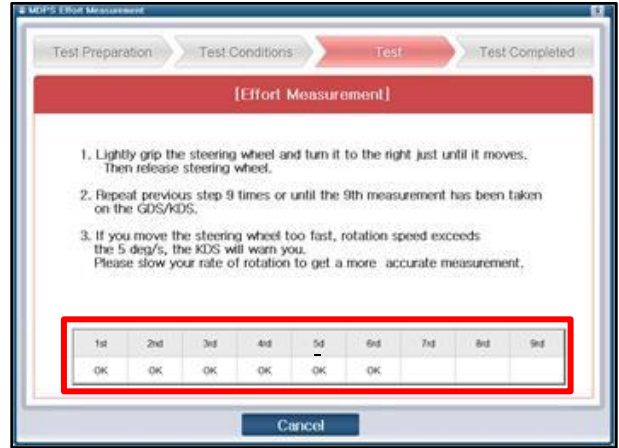
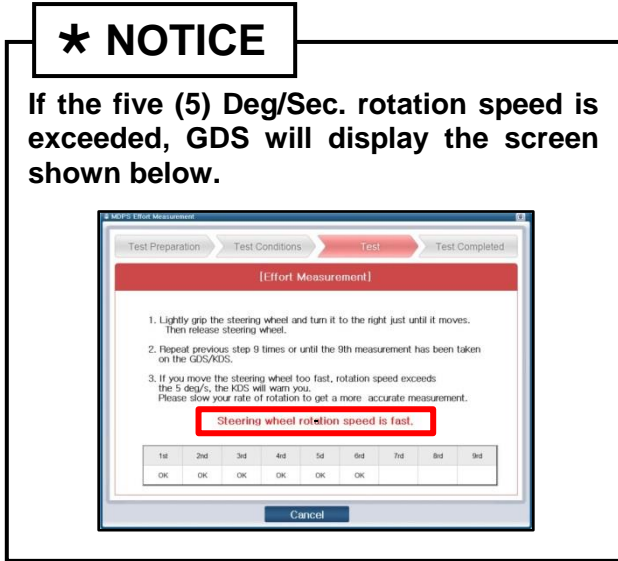


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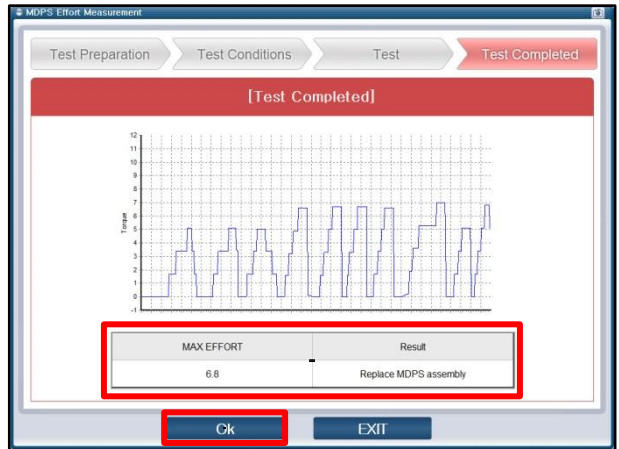
- Perform the steering effort measurement test by rotating the steering wheel, slowly, at a speed of 5 Deg/Sec. Repeat the steering effort measurement test a total of nine (9) times.

**\* NOTICE**

If the five (5) Deg/Sec. rotation speed is exceeded, GDS will display the screen shown below.

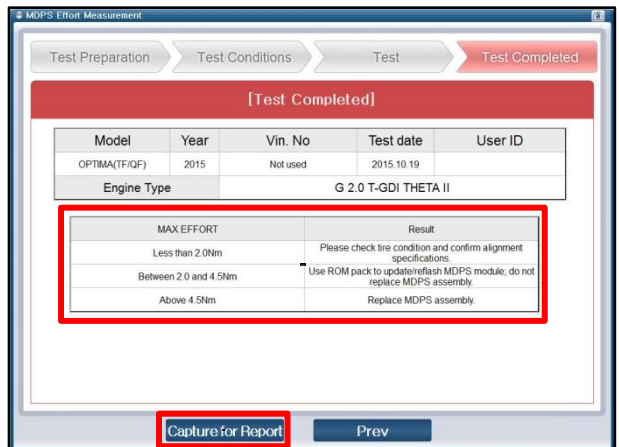


- After performing the steering effort measurement test successfully, GDS will display a result and will provide the appropriate course of action. Click **OK** to continue.



- Refer to the table below for the correct course of action after the 'Test Completed' screen is displayed. **NOTE: hit the 'Capture Report' button to save the report for future reference.**

Item	Max. Effort	Remedy	Proceed to
Steering Effort Value	0 ~ 1.5 lb-ft (0 ~ 2.0 Nm)	No further action is required	N/A
	1.5 ~ 3.3 lb-ft (2.0 ~ 4.5 Nm)	ECU Upgrade	Page 8
	3.3 lb-ft (4.5Nm) or higher	Replace MDPS	Page 11





**ECM Upgrade Procedure:**

UPGRADE EVENT NAME
258.QF EPS LOGIC IMPROVEMENT 2

**\* NOTICE**

- A fully charged battery is necessary before ECM upgrade can take place. It is recommended that the Midtronics GR8 1299 system be used in ECM mode during charging. **DO NOT** connect any other battery charger to the vehicle during ECM upgrade.
- All ECM upgrades must be done with the ignition key in the 'ON' position.
- Be careful not to disconnect any cables connected to the vehicle or GDS during the ECM upgrade procedure.
- **DO NOT** start the engine during ECM upgrade.
- **DO NOT** turn the ignition key 'OFF' or interrupt the power supply during ECM upgrade.
- When the ECM upgrade is completed, turn the ignition 'OFF' and wait 20 seconds before starting the engine.
- **ONLY** use approved ECM upgrade software designated for the correct model, year.

**CAUTION**

Before attempting an ECM upgrade on any Kia model, make sure to first determine whether the particular model is equipped with an immobilizer security system. Failure to follow proper procedures may cause the PCM to become inoperative after the upgrade and any claims associated with this repair may be subject to chargeback.

**SUBJECT: ECM UPGRADE – STEERING LOGIC IMPROVEMENT****ROM ID INFORMATION TABLES :**

Upgrade event #258

MODEL	SYS	ECM P/NO	ROM ID	
			PREVIOUS	NEW
2011~2013MY Optima (QF)	EPS	56300 2T200 56300 2T210 56300 2T220 56300 2T300 56300 2T320 56300 2T450 56300 2T270 56300 2T280 56300 2T201 56300 2T211 56300 2T221 56300 2T301 56300 2T321 56300 2T451 56300 2T410 56300 2T510 56300 2T271 56300 2T281 56300 2T551 56300 2T571	4TFA0911	4TFZ1505
			4TFB1001	
			4TFC1002	
			4TFD1003	
			4TFF1004	
			4TFF1005	
			4TFG1007	
			4TFH1009	
			4TFJ1009	
			4TFK1103	
			4TFL1104	
			4TFM1104	
			4TFN1105	
			4TFO1106	
			4TFP1107	
			4TFP1108	
			4TFQ1109	
			4TFR1110	
			4TFS1110	
			4TFT1111	
4TFU1112				
4TFW1112				
4TFX1202				
4TFY1204				
4TFZ1212				
2014MY Optima (QF)	EPS	56300 2T305 56300 2T325 56300 2T455 56300 2T415 56300 2T515 56300 2T275 56300 2T285	4TFDA211	4TFDL505
			4TFDB302	
			4TFDC304	
			4TFDD305	
			4TFDE305	
			4TFDF306	
			4TFDG307	
			4TFDH309	
4TFDJ309				
4TFDK406				

*To verify the vehicle is affected, be sure to check the Calibration Identification of the vehicle's ECM ROM ID and reference the Information Table as necessary.*

**\* NOTICE**

**If performing this TSB using KDS, refer to TSB SST 037 for detailed information.**

**ECM Upgrade Procedure:**

1. Connect the power supply cable to the GDS.

**\* NOTICE**

If attempting to perform the ECM upgrade with the power supply cable disconnected from the GDS tool, be sure to check that the GDS is fully charged before ECM upgrade. If the GDS is not fully charged, failure to perform the ECM upgrade may occur. Therefore, it is strongly recommended that the power supply connector be connected to the GDS.

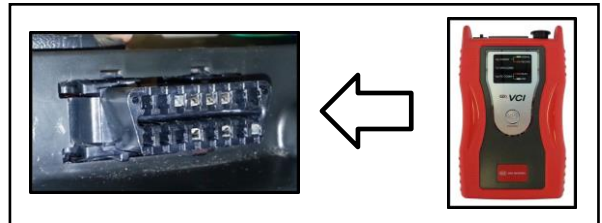
2. Connect the USB cable between the VCI and the GDS.

**\* NOTICE**

When performing the ECM upgrade using the GDS, wireless communication between the VCI and GDS is not available. Therefore, be sure to connect the USB cable between the VCI and the GDS.

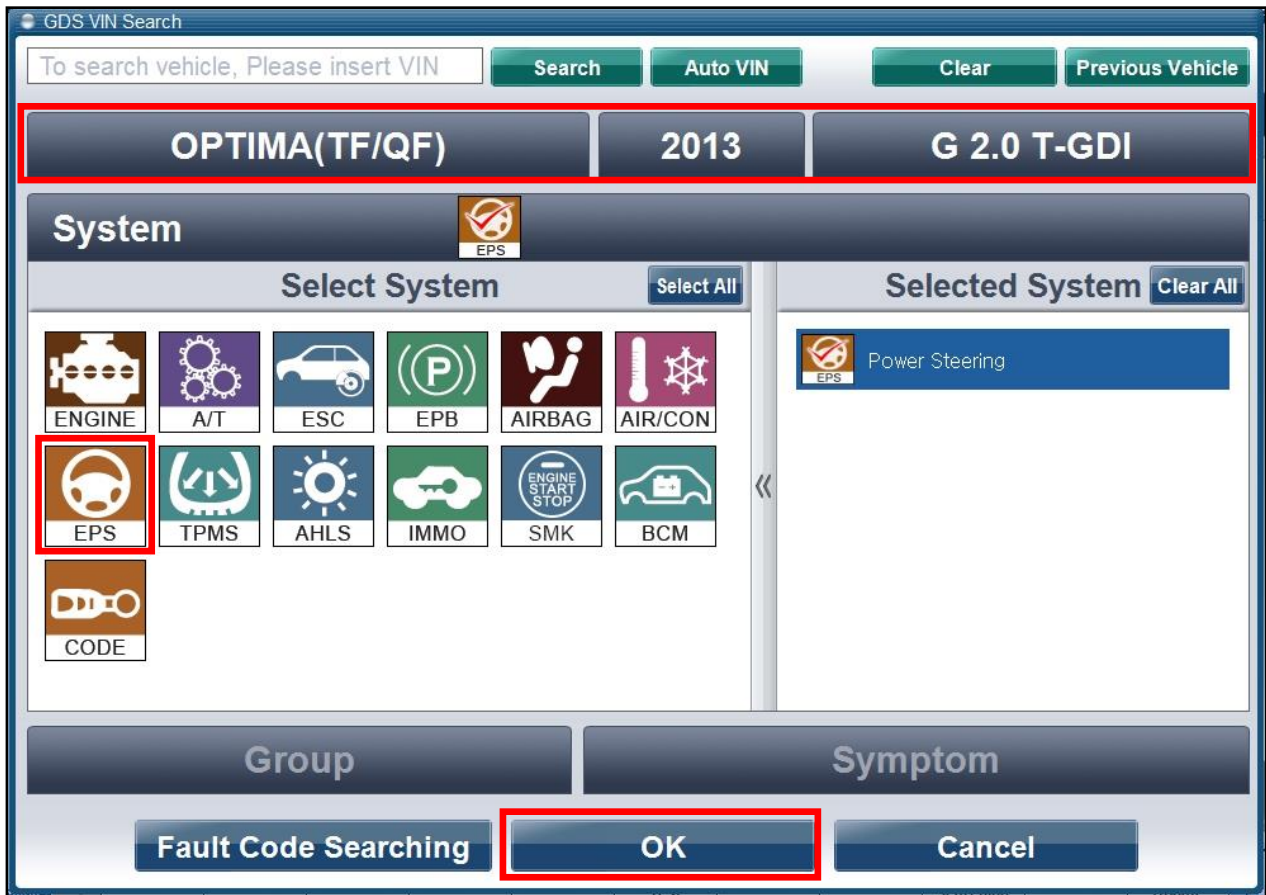
3. Connect the Main 16-pin DLC cable (GHDM – 241000) to the VCI.

4. Connect the Main 16-pin DLC cable (GHDM – 241000) to the OBD-II connector, located under the driver's side of the instrument panel.

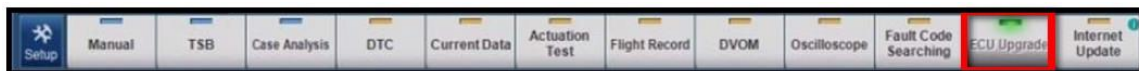


5. With the ignition key ON, turn ON the VCI and GDS. Access the GDS vehicle identification number (VIN) screen and configure the vehicle using the **VIN AUTO DETECT** Function.



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6. Once back at the GDS Main Screen, select **ECU Upgrade** from the bottom right-hand corner. Next select **Auto Mode**, and then **EPS**. Perform the ECM upgrade in accordance with normal GDS ECM upgrade procedures.



**CAUTION**

Before attempting an ECM upgrade on any Kia model, make sure to first determine whether the particular model is equipped with an immobilizer security system. Failure to follow proper procedures may cause the PCM to become inoperative after the upgrade and any claims associated with this repair may be subject to chargeback.

**\* NOTICE**

Do NOT attempt to perform a Manual Mode upgrade unless Auto Mode fails. Always follow the instructions given on the GDS in either Auto or Manual mode. See table for Manual Mode passwords.

**\* Do NOT perform Manual Mode ECM upgrade unless Auto Mode fails.**

**\* MANUAL MODE ECM UPGRADE PASSWORDS:**

**Upgrade event #258 (QF)**

Model	Menu	Password
2011~2013MY QF	QF EPS : 56300-2T200~81/300~21/410~51/510~71	2571
2014MY QF	QF FL EPS : 56300-2T305/325/455/415/515/275/285	2285

7. When the GDS reports that the ECM upgrade has been successfully completed, click OK, turn OFF the ignition key, and wait at least 10 seconds before attempting to start the engine.
8. Check for Diagnostic Trouble Codes using the GDS and erase any DTCs stored such as EPS, ESC, and TPMS. Due to CAN BUS multiple DTCs maybe set during reprogramming.
9. Reinstall the universal joint and secure in place using the original bolt.

**\* NOTICE**

Be sure to use alignment mark made in step 1 to align the universal joint with the pinion.

10. Start the engine and confirm proper operation of the vehicle.

**SUBJECT: ECM UPGRADE – STEERING LOGIC IMPROVEMENT****MDPS Replacement Procedure:**

1. Remove the MDPS assembly by referring to “Steering System → Electric Power Steering → Steering Column and Shaft → Repair procedures” chapter in the applicable Workshop Manual.

**\* NOTICE**

Do **NOT** perform the reflash procedure on the replacement MPDS unit.




SUBJECT:

## ECM UPGRADE – STEERING LOGIC IMPROVEMENT

AFFECTED VEHICLE PRODUCTION RANGE:

Model	Production Date Range
Optima (QF)	From Job#1 through July 27, 2014

RELATED PARTS:

Part Name	Part Number	Figure
MDPS ASSEMBLY	56310 2T305	

WARRANTY CLAIM INFORMATION:

Claim Type	Causal P/N	Qty.	N Code	C Code	Repair Description	Labor Op Code	Time	Related Parts	Qty.
W	56310 2T305	0	I3T	ZZ3	(CHA 060) MDPS Inspection	56300F14	0.4 M/H	N/A	0
					(CHA 060) MDPS Inspection and ECU Upgrade	56300F12	0.5 M/H		
					(CHA 060) MDPS Inspection and MDPS Replace	56300F13	1.3 M/H		

**NOTE: only one Op Code can be claimed.**